

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY



(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PP04-0125	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/KR2004/003024	International filing date(day/month/year) 22 NOVEMBER 2004 (22.11.2004)	Priority date (day/month/year) 08 DECEMBER 2003 (08.12.2003)
International Patent Classification (IPC) or national classification and IPC C12N 1/16(2006.01)i, A23L 1/09(2006.01)i		
Applicant CJ CORP. et al		

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1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising: a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows: <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____ containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input checked="" type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand 07 OCTOBER 2005 (07.10.2005)	Date of completion of this report 08 MARCH 2006 (08.03.2006)
Name and mailing address of the IPEA/KR  Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer LEE, CHUNG HO  Telephone No. 82-42-481-8160

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/KR2004/003024

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☒ This report is based on translations from the original language into the following language English, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☒ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the claims:
- pages _____ as originally filed/furnished
- pages* _____ as amended (together with any statement) under Article 19
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the drawings:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/KR2004/003024

Box No. IV Lack of unity of invention

1. ☐ In response to the invitation to restrict or pay additional fees the applicant has, within the applicable time limit:
 - ☐ restricted the claims
 - ☐ paid additional fees
 - ☐ paid additional fees under protest and, where applicable, the protest fee
 - ☐ paid additional fees under protest but the applicable protest fee was not paid
 - ☐ neither restricted nor paid additional fees.
2. ☒ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is :
 - ☐ complied with.
 - ☒ not complied with for the following reasons:

Group I, claim 1 drawn to a chemically defined medium for fermentation culture of a strain of the genus *Candida*.

Group II, claims 2-9 drawn to a process for producing xylitol in high yield by recycling culture of a strain of the genus *Candida*.

therefore, it considers that the inventions listed as Groups I and II do not relate to a single inventive concept under PCT Rule 13.1.

4. Consequently, this report has been established in respect of the following parts of the international application :
 - ☒ all parts.
 - ☐ the parts relating to claims Nos.

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/KR2004/003024

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	1-9	YES
	Claims		NO
Inventive step (IS)	Claims	1-9	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-9	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

The following documents have been considered for the purpose of this report:

D1: JP 12-093188 A (BORATSUKU CO., LTD.) 4 APRIL 2000

D2: KR 2000-76625 A (AJINOMOTO CO., LTD) 26 DECEMBER 2000

I. Novelty and Inventive Step

Claims 1-9 of the present application relate to a chemically defined medium for fermentation culture of a strain of the genus *Candida*, which comprises a special composition; and a process for producing xylitol in high yield by recycling culture of a strain of the genus *Candida*.

D1 discloses a method for preparing xylitol by culturing *Candida tropicalis*. D2 describes a method of producing xylitol by culturing of various microorganisms.

Compared with the present application, none of the above-mentioned prior art documents discloses the special medium and the method to effectively product xylitol with high yield using recycling microorganisms. In addition, the claimed invention is not considered obvious to a person skilled in the art by using the teachings of D1-D2.

Therefore, the subject matter of claims 1-9 of the present application complies with the requirements of novelty and inventive step under PCT Article 33(2) and (3).

II. Industrial Applicability

There is no reason for forming a negative opinion about the industrial applicability of this application. Consequently, claims 1-9 appear to meet the requirement of PCT Article 33(4).

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PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:
CHO, In-Jae

3rd Fl., Janghyun Bldg., 637-23 Yeoksam-dong, Gangnam-gu
Seoul 135-909 Republic of Korea

PCT

WRITTEN OPINION OF THE
INTERNATIONAL PRELIMINARY
EXAMINING AUTHORITY

(PCT Rule 66)

Date of mailing
(day/month/year) 20 DECEMBER 2005 (20.12.2005)

Applicant's or agent's file reference
PP04-0125

REPLY DUE within 2 months from
the above date of mailing

International application No.

PCT/KR2004/003024

International filing date (day/month/year)

22 NOVEMBER 2004 (22.11.2004)

Priority date(day/month/year)

08 DECEMBER 2003 (08.12.2003)

International Patent Classification (IPC) or both national classification and IPC

IPC7 C12N 1/16, A23L 1/09

Applicant

CJ CORP. et al

1. ☒ The written opinion established by the International Searching Authority :
☒ is ☐ is not

considered to be a written opinion of the International Preliminary Examining Authority.

2. This first (first, etc.) opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
☐ Box No. II Priority
☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
☒ Box No. IV Lack of unity of invention
☐ Box No. V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
☐ Box No. VI Certain documents cited
☐ Box No. VII Certain defects in the international application
☐ Box No. VIII Certain observations on the international application

3. The applicant is hereby invited to reply to this opinion.

When ? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(e).

How ? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3.
For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4bis.

For an informal communication with the examiner, see Rule 66.6.


For an additional opportunity to submit amendments, see Rule 66.4.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary report on patentability
(Chapter II of the PCT) must be established according to Rule 69.2 is: 29 MARCH 2006 (29.03.2006)

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Name and mailing address of the IPEA/KR

 Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon 302-701,
Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

LEE, CHUNG HO

Telephone No. 82-42-481-8160



**WRITTEN OPINION OF THE
INTERNATIONAL PRELIMINARY EXAMING AUTHORITY**

International application No.

PCT/KR2004/003024

Box No. I Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which was filed, unless otherwise indicated under this item.

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- ☒ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this opinion has been established on the basis of (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed."):

- ☒ the international application as originally filed
- ☐ the description:
- pages _____, as originally filed/furnished
- pages _____ received by this Authority on _____
- pages _____ received by this Authority on _____
- ☐ the claims:
- pages _____, as originally filed/furnished
- pages _____, as amended (together with any statement) under Article 19
- pages _____ received by this Authority on _____
- pages _____ received by this Authority on _____
- ☐ the drawings:
- pages _____, as originally filed/furnished
- pages _____ received by this Authority on _____
- pages _____ received by this Authority on _____
- ☐ the sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheet/fig _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to the sequence listing (specify): _____

4. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheet/fig _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to the sequence listing (specify): _____

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**WRITTEN OPINION OF THE
INTERNATIONAL PRELIMINARY EXAMING AUTHORITY**

International application No.

PCT/KR2004/003024

Box No. IV Lack of unity of invention

1. ☐ In response to the invitation (Form PCT/IPEA/405) to restrict or pay additional fees the applicant has, within the applicable time limit:
- ☐ restricted the claims
 - ☐ paid additional fees
 - ☐ paid additional fees under protest and, where applicable, the protest fee
 - ☐ paid additional fees under protest but the applicable protest fee was not paid
 - ☐ neither restricted nor paid additional fees

2. ☒ This Authority found that the requirement of unity of invention is not complied with for the following reasons and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees:

This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is not complied with for the following reasons:

Group I, claim 1, drawn to a chemically defined medium for fermentation culture of a strain of the genus *Candida*.

Group II, claims 2-9, drawn to a process for producing xylitol in high yield by recycling culture of a strain of the genus *Candida*.

therefore, it considers that the inventions listed as Groups I and II do not relate to a single inventive concept under PCT Rule 13.1.

3. Consequently, this opinion has been established in respect of the following parts of the international application:

☒ all parts.

☐ the parts relating to claims Nos. _____

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